IIGCC

Engaging the banking sector on decarbonising real estate

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Contents

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Executive summary

The real estate sector is a major contributor to carbon emissions, with buildings and construction accounting for almost 42% of annual global greenhouse gas emissions.[1] Globally, the buildings sector is not on track for net zero[2] (and could become increasingly off-track should energy efficiency improvements be outpaced by growth in floor space). To align with the International Energy Agency's Net Zero Emissions (IEA NZE) scenario, building sector emissions must fall by roughly 9% annually until 2030.[3] Given the long lifespan of real estate, and the potential for locked-in emissions, action this decade is crucial for meeting emission reduction targets.

Banks' real estate portfolios, encompassing both their banking book and their trading book, are likely to be significantly exposed to various climate-related risks.[4] This includes **physical risks**, such as damage from floods, typhoons or other extreme weather events and chronic issues, and **transition risks**,[5] such as the stranding of assets that do not comply with regulations like the EU's rollout of the recast Energy Performance Building Directive[6] (EPBD) or New York's Local Law 97 which mandates strict GHG emissions limits for large buildings, with significant penalties for non-compliance. Climate risks may also represent a source of **systemic risk**, impacting the global banking system and broader financial stability.[7] Banks may also be underestimating risk from climate change, which could pose a threat to financial stability as climate change accelerates.[8]

Investors are looking for greater visibility of climate risks embedded in real estate financing. Many banks are highly exposed to real estate, with a substantial portion of their loan portfolios directly or indirectly secured by property (see annex II, p.25). This reliance on real estate collateral is common across various regions and financial systems, particularly residential real estate (mortgages). These loans often have long-term maturities, and if backed by collateral that falls in value, the potential losses could be significant. Understanding the climate-related risks associated with a bank's real estate exposure is crucial for investors.

Alongside managing risk more effectively, banks are also uniquely positioned to benefit from the economic opportunities associated with funding retrofits for the 80% of buildings that will still be in use by 2050.[9] Investors want to see banks proactively encourage their real estate clients to invest in decarbonisation and resilience measures to address climate risks. This includes supporting clients to improve their buildings' energy efficiency, consider scaling up investment in building-level renewable technologies, reduce embodied emissions from new buildings and retrofits, and enhance real estate resilience to physical climate impacts. Solutions that can drastically reduce emissions in this sector already exist and are scalable given an enabling regulatory environment.

1 GRESB, What is embodied carbon in the real estate sector and why does it matter?, 2024.
2 IEA Breakthrough Agenda Report 2023, Buildings.
3 IEA, buildings overview.
4 The "banking book" refers to a bank's long-term assets, such as residential or commercial property loans, which are held until maturity and primarily exposed to credit risk. For example, a mortgage on a commercial property would be part of the banking book. The "trading book" contains assets held for short-term trading, such as real estate-backed securities or derivatives, which are subject to market risk. An example would be a real estate investment trust (REIT) held for trading purposes. Bank for International Settlements.
5 For further info, see CRREM and UNEPFI, Managing Transition Risk in Real Estate: Aligning to the Paris Climate Accord, 2022.
6 See e.g. DWS analysis on update of the EU Energy Performance in Buildings Directive and Energy Efficiency Directive.
7 ECB, Climate-related risks to financial stability, 2022.
8 Basel Committee on Banking Supervision, The effects of climate change-related risks on banks: a literature review, 2023.
9 World Economic Forum, Banks and debt providers: the key to unlocking green finance in real estate, 2024.

This paper aims to support investor engagement with banks on their strategies for decarbonising commercial and residential real estate investments.[10] It sets out **key investor asks** for banks on real estate decarbonisation and climate change preparedness across **five focus areas**. The asks are high-level and build on the investor expectations set out in IIGCC Net Zero Standard for Banks.[11] The key asks can be seen as a starting point for engagement.

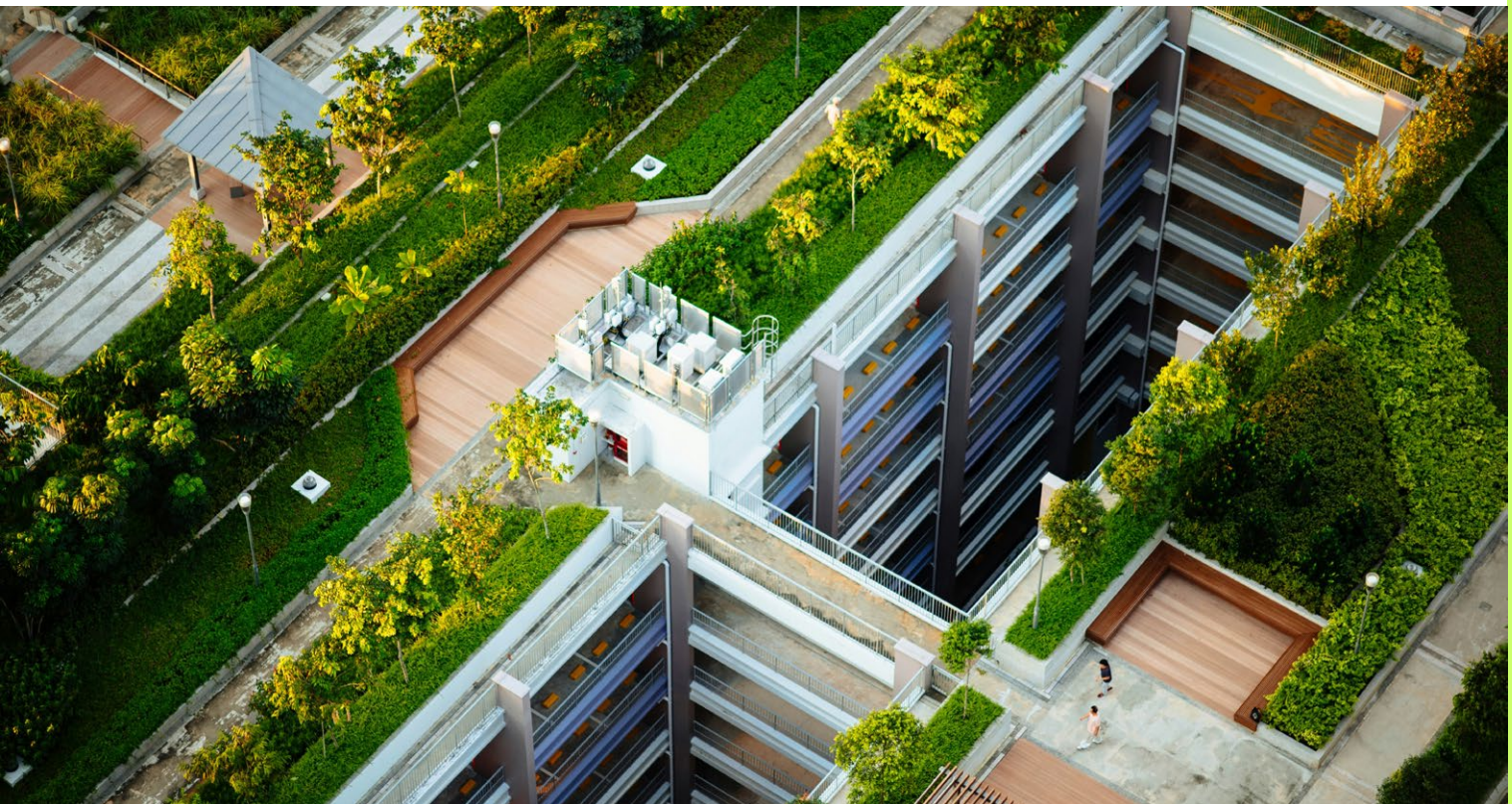
However, recognising that bank approaches might vary, and to support a more informed dialogue, further exploratory questions have been provided in the **Supplementary Guidance**. These questions pertain to disclosures that investors might look for in advance of engagement and what might be asked during an engagement meeting where this information has not been provided.

The asks and supplementary questions are **not intended as a standard or reporting template**. Not all of these will be relevant to every bank, nor will they apply equally across different regions. The diverse nature of banking operations and market conditions means that applicability may vary. Similarly, they are not exhaustive. The **annex** provides further information on the real estate sector, the wider regulatory environment and the current state of play regarding bank action.

Finally, it is worth noting that while the residential and commercial real estate sub-sectors may face broadly similar challenges and opportunities, these will vary in scope and scale, and some of the below questions will be more clearly relevant for a specific sub-sector.

This report aims to complement investor efforts to engage directly with listed and unlisted real estate companies[12] to encourage stronger climate action.[13] IIGCC is developing further guidance in this space. Additionally, IIGCC and some of its members have long engaged with European policymakers on real estate related energy efficiency policies.[14] We are supportive of the efforts of those investors as well as banks in the Energy Efficient Mortgage Initiative or other market initiatives that are already taking action.[15] We hope that this report will be useful as a further resource to both investors and banks alike as they navigate the decarbonisation of this sector.

10 See annex 1 for further information on the scope of this report.
11 Major banks' progress on these expectations was publicly evaluated by the Transition Pathway Initiative.
12 For example, IIGCC real-estate resources and GREEN, Global Real Estate Engagement Network.
13 GRESB, 2023 real estate assessment results, 2023.
14 See IIGCC Insights: EPBD for further information.
15 For further information, see Energy Efficient Mortgage Initiative and European Energy Efficiency Financing Coalition.



Key investor asks across five focus areas

This section outlines key investor asks across five focus areas for investor engagement that are important for understanding and assessing banks' decarbonisation plans for the real estate sector. For each category, we highlight *why this matters* to provide context and underscore the importance of these asks.

1 Climate governance

- Is the bank's real estate strategy consistent with its broader approach to meeting its climate objectives, ensuring that robust governance structures are in place to ensure management ownership and board oversight, expertise, training and relevant incentive structures?

Why this matters:

Effective governance structures are essential for implementing a robust real estate decarbonisation strategy. Investors want to understand what **oversight** measures and **incentive** structures are in place and whether relevant resources and **expertise** filter down through the organisation.

Further questions on this can be found in the supplementary guidance.

2 Exposure, risk assessment and reporting[16]

- **Exposure:** Has the bank disclosed its total exposure to residential and commercial real estate in terms of appropriate financial metrics, split by 1) region and 2) sector and/or residential and commercial sub-sector?
- **Emissions disclosure:** Has the bank disclosed its absolute emissions, emissions intensity and/or energy intensity for the residential and commercial sub-sectors respectively, in line with existing guidance?[17] In case of data limitations, has the bank provided estimates or proxies for the emissions associated with its real estate portfolio? Does the bank actively work to close emission metrics data gaps for existing real estate stock based on available good practices?[18]
- **Risk assessment:** Has the bank disclosed how it identifies, assesses and manages climate related physical and transition risks in its real estate portfolio, and how this informs its strategy (e.g. as part of its TCFD reporting)? Does it disclose its estimated risk exposure, both physical and transition? Does the bank disclose the results of climate stress-testing for its real estate portfolio? Does it disclose how risks are integrated in client-level assessments during loan appraisal?

16 It is important to acknowledge that there will be regional variations in regulatory frameworks (see annex VI).
17 See CRREM and PCAF.
18 See ECB Supervision Newsletter, Climate-related data for the real estate sector: challenges and solutions, 2024.

- **Accounting disclosures:** Does the bank disclose how it has considered climate factors in determining critical forward-looking accounting assumptions relevant to the real estate portfolio (e.g. how mortgage book expected credit loss assumptions take account of physical/transition risk)? Has it provided sensitivity analysis for key accounting assumptions under faster transition (e.g. 1.5°C) and slower transition (e.g. 4°C) scenarios?
- **Capital adequacy disclosures:** Under Pillar 3 disclosures, has the bank provided visibility on how climate-related risks have been factored into the capital adequacy for its real estate portfolio?[19]

Why this matters:

Disclosures on **exposure** and **emissions** help investors understand the materiality of climate-related risks, with emissions disclosures also enabling measurement of progress against targets. Investors seek to understand the bank's **risk assessment process** for both transition and physical climate-related risks, and how these risks translate into risks to capital. Material risks should therefore be accurately reflected in banks' **financial statements** and **capital adequacy disclosures**. If climate-related risks are overlooked, banks may continue lending without accounting for these factors, potentially leading to a misjudgement of default risks and negatively impacting the share price and investor interests.

Supplementary questions are provided to investigate the banks approach to each of these areas in more detail.

3 Target setting »

- Has the bank set decarbonisation targets and sustainable finance targets for the commercial and residential real estate sub-sectors respectively?[20]
- Has the bank disclosed a baseline, pathway and methodology for its real estate sectoral decarbonisation targets?
- For its sustainable finance targets, has the bank disclosed a baseline and methodology and explained how they align with a net-zero pathway and the bank's decarbonisation goals for the sector?[21]
- If the bank has not set targets, does it explain its constraints, and how and over what timeline it plans to expand coverage?

19 In November 2023, the Basel Committee on Banking Supervision (BCBS) issued a public consultation paper on a Pillar 3 disclosure framework for climate-related financial risks, inviting feedback by March 2024. The Committee is currently reviewing the feedback received and continues to work on finalising the framework as part of its holistic approach to addressing climate-related financial risks. At the EU level, The European Banking Authority (EBA) has been actively working on enhancing climate disclosures within Pillar 3. The final draft implementing technical standards (ITS) put forward comparable disclosures to show how climate change may exacerbate other risks within institutions' balance sheets, applied from January 1, 2025, with the first reporting reference date of March 31, 2025. See annex VI for more detail.

20 "Banks may favour monitoring residential real estate and commercial real estate separately given the different scenario pathways and frequent operational segregation." p.ix of UNEP FI, Climate Target Setting for Real Estate financing, 2024.

21 See ShareAction's report Mind the strategy gap, 2024, for an analysis of real estate sector decarbonisation and sustainable finance targets.

Why this matters:

Investors expect banks to set their own ambitious and achievable decarbonisation and sustainable finance targets which plot a trajectory for decarbonising both commercial and residential real estate portfolios. Targets can help organise and focus efforts and provide accountability mechanisms as part of a wider strategy. They also send clear signals to policymakers and companies about the intended trajectory for decarbonisation. Banks should be transparent about the coverage of targets, (which the European Central Bank reports currently only cover a subset of banks' lending exposures), and further questions to explore the robustness of targets can be found in the supplementary guidance.

It is important to note that, for targets to be achieved in this sector, banks should focus on lending to improve **energy efficiency and emissions intensity** (See Context 3). In addition to managing risks at the asset level, there is a macro prudential risk if high carbon assets do not have access to the finance they need to transition, and that banks have a role to play in decarbonising the economy alongside other institutions and government policy and financing mechanisms. Therefore, investor engagement and bank disclosures on net zero plans will be essential, see below – 4. Implementation Roadmap.

Context 1: Both decarbonisation and sustainable finance targets are important as they complement each other

Otherwise, sustainable finance targets could be met with products focusing only on properties that are already highly energy efficient. NatWest is an example of a bank that has provided both targets. In terms of sustainable finance, **NatWest** is part of a broader consortium piloting a financial model for social housing retrofit with Places for People, where capital will be repaid via a number of sources (e.g. selling solar energy) and the benefits to residents will be quantified.

4 Implementation roadmap

- **Decarbonisation strategy:** Has the bank established and disclosed its net zero strategy for decarbonising its commercial and residential real estate portfolio (including client engagement) and disclosed its current progress?
- **Sustainable financing:** Has the bank set out how it will provide finance, services, and expertise to transition real estate assets and how these are tailored by sub-sector/property type?[22]
- **Just transition:** Has the bank disclosed how its climate-related initiatives/strategies in the real estate sector consider just transition-related issues for different stakeholder groups (workers, communities, suppliers and consumers), such as maintaining fair and inclusive access to financing?
- **Adaptation and resilience:** What strategies does the bank employ to mitigate physical climate risks in its real estate loan portfolio? E.g. its plan for adaptation and resilience and engagement with clients on this basis; what financial products and advisory services does it provide (such as resilience labelled loans and bonds, assistance with risk and insurability assessments etc)? What frameworks/tools have been developed? How does it engage with the wider ecosystem to address challenges?[23]

22 For instance, Commercial (logistics, data centres), Residential (retail landlords, social housing, individual mortgages etc.)

23 For a ranking of 50 of the world's largest commercial banks by climate adaptation maturity (sector neutral) see the White Paper Top 50 Banks In The World Tackling Adaptation, 2024.

Why this matters:

It is crucial for a bank's real estate targets to be supported by the disclosure of a credible strategy to help investors understand how the bank is actively managing climate risks and contributing to real economy decarbonisation.

It is also important that the transition to low carbon real estate does not unintentionally marginalise people and communities, (there is a strong business case for ensuring that the transition is **socially just**). Questions in the supplementary guidance can help initiate a conversation around the banks approach however "[t]here will be no 'one size fits all' approach to the Just Transition. It cannot be a 'tick-box exercise' because every sector has different stakeholders, transition risks and mitigation actions." Chinyelu Oranefo (Director, Sustainability & ESG Finance, Lloyds) in The 2023 SDG Business Blueprint.

Supplementary questions explore in further detail how the bank **engages with its clients on their transition plans** and its approach to **greening finance** (not just financing green) through product innovation and services to support clients to transition.

Example 1: Green lending

Lenders are increasingly offering green mortgage products that provide borrowers with preferential terms when they use the funds to retrofit an existing property or to acquire or construct an energy-efficient home. For more detailed information, see the UK lenders handbook. Some examples for the residential sub-sector include:

- **ABN AMRO:** Provides development loans, tailored financial products, and advice for sustainable renovations of new and old buildings, with 'attractive terms' for clients looking to invest in energy efficiency measures.
- **Bank Australia:** Offers a Clean Energy Home Loan with reduced interest rates for up to five years for clients building or renovating homes for energy efficiency. Options include the Eco Pause feature, allowing repayment breaks for installations like solar panels. To qualify, new homes need a 7.5-star rating or higher under NatHERS; existing homes need significant green upgrades.
- **Nationwide:** Launched an interest-free green loan in 2023 to help homeowners enhance the energy efficiency of their homes.
- **Royal Bank of Scotland:** Initiated a Green Housing Retrofit Loan pilot scheme for social housing, allocating £50m of funding to Together Housing Group for sustainable retrofits of 38,000 properties.

Banks are also providing advisory services, e.g.:

Commonwealth Bank: Developed a 'Green Buildings Tool' to help their commercial clients identify the potential impact of retrofitting along with scope of investments required for energy cost savings and energy rating improvements, helping clients save on consultancy fees.

Differentiated mortgage offerings for clients seeking to retrofit will be more relevant to jurisdictions where energy ratings for residential housing are widely available, such as the UK. (See annex III for further info on challenges and associated policy gaps.)

In emerging markets, private green debt finance for building green is extremely low, but growing.

Example 2: ING's client engagement approach

In its 2024 climate report (p.22), ING has clearly set out its client engagement approach in a decision tree, where the bank presents its decision-making process for engaging and monitoring clients.

ING also assesses the level of client climate disclosure in commercial real estate - close to half of their clients fall in their low disclosure band. In integrating climate action in its business operations, ING also aims to increase engagement with clients to 'steer and support their progress on their transition plans.'

Context 2: Adaptation & Resilience – an emerging area of focus

Climate change preparedness is crucial for real estate and attention is increasingly turning towards adaptation and resilience (A&R) to climate change impacts. Banks can expect impact from increased credit risk and issues relating to insurability of assets. However, as lenders, banks are also **well-positioned to finance resilience retrofits to buildings, and advise in assessing physical risk** (see BCG's article on this). Some banks have taken the lead in developing guidance such as Standard Chartered which has published a classification framework for adaptation and resilience-building investments.

Besides managing risk, there are clear i**nvestment opportunities** for banks' clients in construction and retrofits that enhance climate resilience. This has been explored in IIGCC's recently published paper Physical Climate Risk Divergence: PCRAM for investors, which looks at how the methodology could be applied by real estate investors throughout lending and investment processes and has the potential to assist investors in moving beyond a sole risk management lens to a **value creation exercise**.

IIGCC's Physical Climate Risk Assessment Methodology (PCRAM) helps financiers understand both the risks to their assets from climate change, as well as helping them and their clients quantify the benefits of building resilience. In its continued development, **PCRAM 2.0 will also expand the methodology to real estate assets**.

The need for a joined-up approach when addressing transition and physical risk:

Joined up thinking among lenders, owners, and occupiers is crucial for addressing climate change holistically in buildings. Examples of this include:

- Ensuring that any approach considers maladaptation and/or significant harm to other sustainability objectives (e.g. emissions goals).
- Ensuring retrofitting for resilience is considered alongside efficiency improvements, which would be less disruptive and more cost-effective.

In highlighting the significant carbon footprint of failing to protect homes from flooding, Aviva advocates for **stronger regulations, collaboration, and a consistent government strategy** to encourage the adoption of adaptation and emission reduction measures together.

5 Engagement

- **Policy engagement and industry engagement:** Does the bank engage with policymakers, industry groups, or other stakeholders to support initiatives that strengthen the ability of clients, banks and the real estate value chain to meet net zero goals in the real estate sector, including advocating for policies and public financing frameworks that advance renovations?

Why this matters:

Targets for real estate (particularly residential) will be extremely difficult to achieve unless governments create the necessary incentives for investment in energy efficiency and support the roll out of low carbon heat (e.g. heat pumps and district solutions). To ensure an enabling environment, banks have an important role to play in **engaging the broader ecosystem** – including regulators, policymakers, industry, supply chain and clients, and it is helpful for banks to disclose what challenges they face in these areas (see e.g. ING's Call-to-Action in its 2023 Climate Report).

Find further questions in the supplementary guidance.

Challenges and opportunities associated with real estate decarbonisation

The road to net zero in the real estate sector is complex and requires collaboration from many actors. Here we highlight four key observations that underpin many of the questions in this report (with specific challenges covered further in annex III).

- **Regional variability in data and energy mix can hinder target setting:** Setting portfolio-wide targets can be challenging for banks due to the significant variation and availability of asset-level data across different jurisdictions. Additionally, some banks may be reluctant to set targets where there is considered to be more limited control over asset decarbonisation and high dependency on regional energy mix. Banks are also generally a step removed from control of building emissions, which are managed by the occupier and/or the borrower. However, several initiatives are now driving greater standardisation and where previously there may have been less awareness of the upside of promoting energy efficiency, this is changing, as noted by The Energy Efficiency Financial Institutions Group (EEFIG) which has found a 'statistically significant correlation' between mortgage credit performance with the energy performance of mortgage collateral.[24]
- **Focus on energy efficiency improvements (alongside electrification and renewables installation) is key for real world decarbonisation:** Focusing solely on reducing financed emissions might lead banks to avoid older, high-emission assets instead of financing their improvements.[25] This approach could hinder real-world decarbonisation, cause stranding risk, and impact market and social stability. It will be important for banks to articulate how different business lines will support the increased green renovation of buildings and support the development of retrofit supply chains,[26] and engage with policymakers[27] while integrating just transition perspectives.[28]
- **Tackling low product demand is essential:** Despite the introduction of innovative products by some banks, the high up-front costs of renovations and insufficient incentives for borrowers remain significant hurdles.[29] Banks can take a proactive role in also providing advice and guidance to influence customer behaviour. Of course, banks do not operate in isolation, and the slow pace of home renovations highlights an ecosystem challenge that requires coordinated efforts from government, industry, and the finance sector to help speed up deployment of solutions, including widening access to capital.
- **Physical risk should be assessed and addressed alongside transition risk:** The real estate sector, as a fixed location and long-term asset class, is significantly vulnerable to physical climate risks. Asset decarbonisation should be addressed alongside improving resilience. However, assessing banks' current and planned resilience measures is challenging for several reasons (see Context 2). Nevertheless, in more recent TCFD disclosures, banks are starting to disclose the steps taken to integrate physical risk, especially for real estate.[30]

24 Energy Efficiency Financial Institutions Group (EEFIG), The quantitative relationship between energy efficiency improvements and lower probability of default of associated loans and increased value of the underlying assets, 2022, p.12.
25 See CREFC's response to the Basel Committee's consultative document "Disclosure of climate-related financial risks".
26 Bankers for Net Zero, Tooling up the green homes industry, 2022.
27 IIGCC, letter on EU EPBD, 2022.
28 GRESB, Social equity and net zero: Real estate's role in a just transition, 2023.
29 Bruegel, How to finance the European Union's building decarbonisation plan, 2024.
30 For example, see HSBC's 2023 Annual Report and Accounts, p. 224.

Despite the challenges identified above, banks have a significant opportunity to support decarbonisation and enhance resilience of the built environment. Decarbonising commercial and residential real estate in line with 1.5°C scenarios will require investments of c. USD$10trn up to 2030.[31] This investment gap represents opportunity as demand for sustainable buildings rises across the globe and the policy environment becomes more supportive.[32] Banks are mobilising to meet this opportunity - over 30% of Europe's largest banks have begun to implement voluntary Mortgage Portfolio Standards and lending to support the renovation of buildings.[33] Relative to other sectors, improving the efficiency of real estate assets is considered straightforward, particularly at the point of new acquisitions with mortgages.

Improving energy efficiency can also reduce the likelihood of loan defaults. Analysis from the Bank of England suggests that mortgages associated with energy-efficient properties are less frequently in payment arrears than mortgages on energy-inefficient properties.[34] Renovations can include upgrading insulation and windows and installing efficient heating and cooling systems. Renovating buildings can also create healthier living and working environments, contributing to various social, health, and economic productivity goals,[35] as well as help improve overall energy security and lower exposure to volatile energy prices. Building resilience is also important as extreme weather events can lead to spikes in mortgage defaults.[36]

As a consequence, financing the transition of real estate assets is increasingly a regulatory priority. For instance in Europe, the European Banking Authority has recommended expanding the green loan and mortgage market,[37] and the EPBD encourages the development of a voluntary Mortgage Portfolio Standard for lenders.[38] A report from the European Central Bank (ECB) also highlighted the importance of credible counterparty transition plans for carbon-intensive sectors with real estate highlighted as a highly material income source.[39] See annex VI for a summary of global regulatory requirements related to real estate.

To address these challenges and capitalise on the opportunities, ecosystem engagement is essential. Where regulatory constraints have been identified, banks have an important role to play in policy advocacy to encourage a supportive regulatory environment. Ensuring real-world decarbonisation also requires **engagement with industry and value chain**. Of the sectors' contribution to global emissions, around 11% stems from extraction, manufacturing, construction, and end of life phases (embodied emissions).[40] It is therefore important for banks to adopt a **whole-life carbon approach**[41] and engage across value chains, including with their own clients in the construction and building materials industry.

The annex to this document provides further information on the current regulatory and wider context, and potential areas for further work. This includes further information on relevant tools and frameworks for this sector like the Carbon Risk Real Estate Monitor (CRREM) and Partnership for Carbon Accounting Financials (PCAF). To deliver more standardised reporting, **banks are encouraged to adopt existing best practice third-party methodologies** for real estate and work with relevant industry bodies and policymakers to address any gaps and regulatory challenges.

31 HSBC, Net Zero Transition Plan, 2024.
32 RICS, RICS sustainability report, 2023, p.1.
33 Peter Sweatman, Engaging Retail Lenders in Home Renovation: Turning Sustainable Finance Commitments into Household Energy Savings and Climate Resilience, 2023.
34 Bank of England Does energy efficiency predict mortgage performance, 2020. The analysis is controlled for other factors such as borrower income and the loan-to-value ratio of the mortgage.
35 Refer to the World GBC's Beyond the Business Case report, 2021 for further information on why health, wellbeing and social value matters.
36 Moody's, The storm ahead for mortgage default models, 2021.
37 EBA, EBA Report in response to the call for advice from the European Commission for green loans and mortgages, 2023.
38 Climate Strategy and Partners, Mortgage Portfolio Standards, 2024.
39 European Central Bank, 2022 climate risk stress test, 2022, see p.28.
40 The World Green Building Council, Bringing embodied carbon upfront, 2019.
41 A whole life carbon approach considers both operational and embodied emissions across the entire lifecycle of buildings.

Supplementary Guidance

This section sets out further potentially relevant questions to support engagement across each focus area above. These questions can be used to help understand the robustness of a bank's approach against the key questions above.

1 Climate governance

- Has the bank published a real estate sector policy?
- Does the bank's remuneration structure include metrics to track progress on real estate decarbonisation?[42]
- Has the bank demonstrated that climate risk management for the real estate portfolio is demonstrably overseen by existing risk management structures through its usual three lines of defence?
- Does the bank provide training across the organisation to increase awareness about aligning its real estate portfolio with climate targets? (For example, to front office staff on how to advise customers during mortgage consultations on the advantages and possibilities of refurbishment;[43] and to middle office staff on assessing clients' transition plans).

2 Exposure, risk assessment and reporting[44]

Exposure:

- Does the bank disclose its total exposure to residential real estate and commercial real estate within its loan book, trading book and capital markets activities, including the value and the percentage share of total exposure?
- Does the bank provide a breakdown of the real estate exposures by region and sector/sub-sector, associated maturities and degree of "underperforming" (Stage 2) and "non-performing" (Stage 3) loans within each segment?[45]
- Does the bank disclose how its real estate portfolio is exposed to different physical risks, by geography and risk type, e.g. sea level rise, flooding, typhoons, etc?

Emissions disclosure:

- Has the bank disclosed its annual real estate absolute emissions and emissions intensity ($kgCO_2e/m^2$) for the residential and commercial sub-sectors respectively? (Where possible drawing on CRREM and reporting also by climatic zone and commercial real estate segment[46])?

42 See here for examples of climate-related metrics in compensation frameworks.

43 As an example, for its customer advisory services in the Netherlands, ING's mortgage advisors receive training so as to be able to advise customers during mortgage consultations on how they can improve the sustainability of their homes. ING, 2023 Climate Report, p.83.

44 It is important to acknowledge that there will be regional variations in regulatory frameworks (see annex VI).

45 For example section 21 of Final draft Annex I ITS disclosures (Revised 14/11/2024) by EBA.

46 The CRREM methodology defines decarbonisation pathways for real estate, calculating energy intensity (kWh/m^2/year) and carbon intensity ($kgCO_2e/m^2$/year) based on in-use operational energy use and emission factors. It incorporates factors like building type and location to assess compliance with future carbon budgets and targets. For more information, see CRREM's Reference Guide.

- Has the bank disclosed its annual energy performance data such as level of energy intensity (kWh/m^2)[47] and energy efficiency label (EPC) for residential and commercial real estate portfolios?
- Does the bank comprehensively apply the PCAF guidance for disclosing financed[48] and facilitated[49] emissions?
- Does the bank disclose against the PCAF data quality hierarchy and highlight where there are distinct challenges?[50] Does the bank disclose a threshold on this metric for target setting?
- Does the bank disclose how it works with and advises clients (e.g. REITs, SMEs) to facilitate emissions data collection, including improving embodied emissions data availability at the micro-level?[51]

Transition and physical climate risk assessment

- Does the bank assess the relationship between energy efficiency, carbon intensity and credit risk for its mortgage/property portfolios?
- Does the bank disclose whether its analysis of mortgage and property loan portfolios account for property stranding risk?[52] And over which timeframes?
- Does the bank assess the percentage of its real estate loan book subject to a physical climate risk[53] and transition risk assessment?
- Does the bank disclose how the transition and physical climate risk assessment translate back into the Risk Appetite Statement for enhanced disclosure?
- Does the bank disclose the proportion of residential and commercial real estate that it considers to have medium-to-high physical climate risks?
- Is the bank working to enhance the collection and integration of physical risk data?[54]

47 Disclosed per country and real estate sector, as EPC labels themselves are not comparable between/within regions and sectors. Energy intensity also depends on heating/cooling demand in a region; data from supervisory exercises show that fewer than ten European banks have over 50% actual (not estimated) EPC data for both residential and commercial real estate. Even at the aggregated European level from banks' Pillar 3 disclosures, the amount of actual data remains insufficient, yet estimations and best practices can improve the data collection - see ECB, Supervision Newsletter: Climate-related data for the real estate sector: challenges and solutions, 2024.

48 See PCAF Part A financed emissions for on balance sheet investments asset classes: Commercial Real Estate and Mortgages. See also Accounting and Reporting of GHG Emissions from Real Estate Operations for Financial Industry for additional guidance and specifications on the real estate sector.

49 See PCAF Part B: facilitated emissions for facilitating issuance of public debt and public equity related to real estate. Banks should disclose using the weighting factor in line with the PCAF guidance.

50 Disclosure about actual data vs estimates is important - including disclosing how it makes use of proxy data from data vendors where direct data is not available or partly available. For example, in Belgium, BNP (2024 Climate Report, p.59) disclosed that it collected EPCs representing 14% of the portfolio's outstanding. For the remaining 86%, EPCs were approximated based on the most granular geographical EPC label mix publicly available.

51 For further info on life cycle assessments, see GRESB, Establishing an embodied carbon strategy in the EU market, 2024.

52 See CRREM, Risk Assessment Reference Guide, 2023.

53 Having a metric for % of loan book subject to a physical climate risk assessment would indicate that the bank has intelligence not only on exposure and vulnerability but also some understanding of how to manage it. Industry developed methodologies like PCRAM (Physical Climate Risk Assessment Methodology) taken forward by IIGCC can be used to help show that a thorough investigation has taken place with materiality and resilience options identified. (Case studies for real estate are forthcoming).

54 To understand, for example, which houses are vulnerable to physical climate risks and associated potential insurance costs.

Context 3: The value of different metrics

Energy intensity (kWh/m²/yr) measures the amount of energy consumed per square meter of a building over a given timescale. While high energy intensity indicates greater energy consumption, it doesn't always mean the building is inefficient— it reflects the operational demand for energy in a building, considering factors like usage, location, and structural design.

When setting targets, energy intensity can be reflected in EPC labels, a theoretical measure of energy intensity that a building should be capable of. However, as this is not a perfect proxy, banks should strive to know the **actual metred energy use as well**. The actual metred energy use also captures owner behaviour which is relevant from a double materiality point of view.

Banks should therefore support the improvement of energy intensity data availability (from their clients, grid providers, statistical bureaus), as it is a useful metric for tracking building-level energy performance. In the Netherlands for instance, the Central Bureau of Statistics (CBS) do enable mortgage lenders to access this data.

With regards to EPC labels, it is important to be aware of the difference in labels between jurisdictions and sectors.

Emissions intensity (kgCO_2e/m2/yr) measures the amount of emissions per square metre to reveal the emissions profile based on the building's energy source(s) (e.g., renewable versus fossil fuels). Lowering emissions intensity indicates a shift to cleaner energy sources and/or using less energy, which is crucial for aligning real estate assets with transition targets. Levers to reduce emissions intensity include **electrification** (replacing direct gas or oil consumption in the building), **renewables installation** and **energy efficiency measures**.

Energy efficiency refers to the reduction in energy required to perform the same function, such as heating or lighting, achieved through better insulation, efficient Heating, Ventilation, and Air Conditioning (HVAC) systems, and other retrofit measures. Energy Efficiency measures reduce both energy intensity and emissions intensity over time by minimising energy demand.

Holistic assessment of banks' real estate targets: Energy intensity provides a baseline for understanding consumption patterns but should be balanced with an understanding of the buildings' **energy efficiency** to avoid penalising high-intensity buildings that have made efficiency gains. **Emissions intensity** complements energy intensity by focusing on emissions, revealing progress toward low-carbon transition objectives. Together, these metrics help banks holistically assess and set meaningful targets for decarbonising real estate and aligning a bank's real estate portfolio with its net zero commitment.

Capital adequacy disclosures

- Has the bank incorporated material climate factors into its capital adequacy disclosures?[55]
- Has the bank considered using plausible but severe climate scenarios when undertaking a stress test and how any outputs have been integrated into their ICAAP and/or ILAAP?[56]

55 For instance, the European regulatory framework, as outlined in Articles 431 et seq. of the Capital Requirements Regulation (CRR), requires institutions to publicly disclose material information that is not proprietary or confidential. Article 432 specifies that information is considered material if its omission or misstatement could influence economic decision-making. These disclosure requirements aim to provide key information on an institution's capital, risks, and risk exposures to adequately inform market participants. See Guide on climate-related and environmental risks. p.45.

56 For more information on climate scenario analysis and stress testing, see the Network for Greening the Financial System (NGFS) Climate Scenarios Portal. It is important to recognise the limitations of current models -as highlighted by this report from the University of Exeter & the Institute and Faculty of Actuaries, climate scenario models used in financial services significantly underestimate climate risks, particularly in relation to longer-term impacts and the insurance protection gap.

3 Target setting

- Has the bank set absolute emissions, energy intensity[57] and/or emission intensity targets?[58] Does the bank provide interim milestones for its targets?
- Does the bank disclose how its targets align to a credible 1.5ºC science-based pathway?[59, 60]
- Does the bank disclose the mechanisms in place to set and monitor the progress of its real estate-related decarbonisation and sustainable finance targets?
- Does the bank disclose the coverage of its decarbonisation targets, both in respect to financial coverage (financed/facilitated, regional and asset-level[61]) and carbon emissions (scope 1-3 coverage[62])? Does the bank disclose how it is working to increase coverage across its portfolio?

Example 3: ING target setting case study

ING's commercial real estate target setting approach (p.63) covers its global wholesale banking and business banking in Netherlands, now being expanded to cover its portfolio in other countries too. On the residential side, it covers about 85% of its mortgage lending.

In its annual report, the bank notes that combining all the data into a single target, and measuring performance against that target, has been challenging. Moreover, the commercial real estate markets in most countries currently have limited availability of energy performance certificates (EPCs). Therefore, ING discloses that its assessments are largely proxy-based and use PCAF estimates, which makes target setting and progress monitoring on an intensity basis quite difficult. ING's goal for the coming years is to both increase the coverage, and to decrease the usage, of proxy data. Despite limitations, proxy data is useful as it allows banks to set an ambition and take action while data improves.

4 Implementation roadmap

Decarbonisation Strategy

- Has the bank set out a robust net zero strategy linked to a framework like CRREM? Has the bank disclosed, for instance, if it considers whole building cycle emissions, biodiversity,[63] water impacts etc.?
- Has the bank articulated its expectations for clients, for example having a transition plan (including financing needs) in place?

57 For most banks these are currently reflected as EPC targets and are jurisdiction-specific but could, for example, also be a target to increase renewable-ready technologies like heat-pumps or district heating within their real estate portfolio.

58 Intensity metrics are beneficial as they highlight improvements in emissions reduction performance at the portfolio level, despite changes in portfolio size. Absolute targets are more useful when the number of assets in a portfolio is less likely to change. See MetLife IM, Decarbonisation Metrics for Real Estate Investment, 2024.

59 For emissions intensity - For example, Carbon Risk in Real Estate Monitor (CRREM) pathways, IEA NZE, or other relevant, credible net zero pathways/curves. According to NZBA, CRREM 1.5 is currently the most common pathway being used, followed by the IEA NZE 2050 scenario. See here for further info.

60 For energy intensity - This is currently often reflected as the % of energy label improvements over a specific timeframe.

61 For example, what is the jurisdictional coverage? What financial assets are in scope (i.e. mortgage / real estate related lending and capital markets activities)?

62 Scope 3 is occupier-procured energy for operational use or embodied carbon – see annex I for further info.

63 The TNFD highlights real estate development as a high-priority sector for nature and has published its additional sector guidance for engineering, construction and real estate.

- Does the bank disclose what proportion of its corporate real estate borrowers have their own transition plans? Has the bank set milestones/targets for receiving client transition plans?
- Does the bank disclose how (and the extent to which) it assesses the transition plans of its corporate real estate clients? Does the bank disclose its strategy for engaging and challenging borrowers on the substance of their plans, and seek opportunities to support them with advice and tailored solutions?
- Has the bank developed tools to track the implementation and progress of these plans?
- Does the bank disclose how it works with clients to find opportunities across the lending life cycle, including in the due diligence process, to encourage clients into making low carbon choices, including embodied emissions?
- Does the bank disclose how it supports expansion of the supply of lower embodied carbon emissions in building materials?[64]
- Does the bank set out how finance/facilitation for new builds avoids carbon lock-in?

Sustainable finance

- Does the Bank disclose if it offers sustainable finance products to its residential real estate (RRE) and commercial real estate (CRE) clients to help strengthen customer incentives for upgrading a building's energy efficiency? For example, preferential green mortgages[65] in alignment with best practice mortgage related principles[66], or financing to support corporate clients in decarbonising the building stock (e.g. project finance for building retrofits; sustainability-linked loans/bonds, green bonds etc.).
- Does the bank disclose if in its sustainable finance strategy, it differentiates between financing of already-efficient real estate assets vs financing efficiency improvements/ renovations that take advantage of retrofit and decarbonisation opportunities, and renovations that don't?
- Does the bank disclose the taxonomy it uses to define sustainable finance products?
- Has the bank disclosed KPIs for client uptake of its sustainability-orientated products and disclosed the proportion of customer uptake on a product-by-product basis?
- Does the bank disclose if it provides advice to prospective/current mortgage customers? This could include advice on issues such as: regulations affecting building owners; accessing government grants and subsidies for energy improvements; information on costs and benefits of green property renovation; information on retrofit/ energy specialists.[67]
- Does the bank disclose to what extent it takes a building lifecycle view in its sustainable finance strategy?

64 For example, whether the bank works with corporate clients in 'upstream' industries (that provide energy and materials to the real estate sector, such as cement, steel and domestic utilities) on their decarbonisation pathways and key solutions (such as low carbon construction materials) or engaging real estate developers on low carbon procurement requirements and design circularity and optimisation.

65 See e.g. Energy Efficient Mortgages Initiative and Energy Efficient Mortgage Label.

66 Such as the Green Home Finance Principles, Energy Efficient Mortgages Initiative.

67 See for example the CFP Green Buildings platform used effectively by certain banks to provide retrofit recommendations and business plans for SME real estate borrowers.

Example 4: Deutsche Bank's residential real estate strategy – tackling embodied emissions

Deutsche Bank's residential real estate strategy states that it considers complete building life cycle emissions and includes the following objectives:

- To provide information and financing services to clients for construction and renovation of energy-efficient homes, to reduce operational emissions.
- To partner with corporate clients in 'upstream' industries to reduce embodied emissions.
- To engage with policymakers, banking sector peers, industry alliances and other bodies to define sector-wide strategies and financial assistance.
- To contribute to the harmonisation of methodologies, data quality and reporting standards.

Just transition

- Has the bank committed to decarbonise its real estate portfolio in line with defined Just Transition principles and embedding just transition considerations in its policies for new and existing products and portfolios?
- Does the bank disclose its strategies to avoid 'green lining' (i.e. reduced access to capital for inefficient buildings)?[68]
- Has the bank disclosed how it engages with its large carbon-intensive real estate clients to ensure adherence to Just Transition principles?

5 Engagement »

Policy engagement

- Does the bank positively engage on climate-significant policy and publish its policy positions[69] as well as publish policy dependencies?
- Does the bank review its indirect lobbying activities related to real estate, and disclose any actions taken?
- Does the bank describe how it engages with policymakers, central banks and development banks to create financing solutions which equitably incentivise long-term, low-cost capital for green building renovation?
- Does the bank disclose how it works with policymakers and other stakeholders to address challenges, data limitations/gaps, financial policies and address privacy challenges related to real estate?[70]
- Does the bank encourage enabling mechanisms like Green Banks or other public-private partnerships[71] to help ease the capital burden on banks and clients to allow more finance for retrofit?

68 On the Just Transition in the housing sector, see as a further resource, LSE Grantham Institute, Funding a just transition to net zero emissions in the UK housing sector, 2020.

69 See the Global Standard for Responsible Lobbying for further information on broader investor expectations related to climate policy advocacy.

70 Refer to annex IV outlining a non-exhaustive summary of identified bank requests for policy interventions

71 See for instance, the property assessed clean energy (PACE) model. Small financing can be challenging for banks and costly for borrowers. Banks can support mechanisms to ease capital burdens and finance retrofits. PACE, backed by the US Department of Energy, helps fund energy improvements through local and state governments, see research on challenges and benefits.

- Does the bank engage with governments including local and regional governments on building systemic resilience in areas where it has high climate risk exposure?[72]

Context 4: EU supported Renovation Loan mechanism – example of policy engagement

The European Investment Bank ran the Private Finance for Energy Efficiency programme (which included a risk sharing mechanism) and other innovative financing programmes to address the limited access to adequate and affordable commercial financing for retrofits. Some member states also offer different programmes that partner with banks and solution providers.

One proposal has been for a EU renovation loan instrument to work with lenders and clients to support investment through a zero-coupon affordable loan and guarantee that is distributed by lenders. This was endorsed in Deutsche Bank's Real Estate Sustainability Strategy.

Industry engagement

- Is the bank working with peers and industry bodies to improve the quality and standardisation of climate transition and physical risk data, methodologies, models and scenarios (including data and reporting on embodied emissions)?[73]
- Has the bank established partnerships with real estate specialists outside the financial industry to help clients with renovations?
- Does the bank provide financing and expertise to improve the capacity and quality skills of the renovation supply chain?
- Does the bank disclose how it engages with the insurance sector to assess insurance availability and affordability for physical climate risk covers within residential and commercial real estate lines?[74]

72 An example of this is GAIA led by MUFG, "a USD $1.48 billion climate change-focused blended finance platform that will offer long-term loans for climate change adaptation and mitigation investments in up to 25 developing countries".

73 PCAF has announced that during 2024 further exploratory work will be conducted on embodied carbon from real estate, see the Jan 2024 announcement here.

74 There is a risk of maturity mismatching where the duration of the insurance does not correspond with the duration of the real estate investment. A bank might also model how the insurance protection gap will evolve under climate scenarios.

Annex: Further information to support engagements

I. Scope – understanding the real estate sector

The real estate sector poses significant challenges for banks in emissions reporting, given its vast diversity of asset types, the complex scope of financial assets, and varying methodologies for quantifying and disclosing emissions. This section examines these intricacies and helps clarify the scope and emissions boundaries of the real estate sector.

The need for an asset-based approach

The real estate sector differs from other sectors in that it requires an asset-based approach to portfolio alignment. This is due to the differences in assets based on various factors including **location** (real estate is highly local, with implications for e.g. data collection, impact of climatic zones), **function** (lack of uniformity across property types), **building asset modernity** and **complex stakeholder structures** (for instance, the building owner is not the sole decision maker around energy efficiency improvements).[75]

The Carbon Risk Real Estate Monitor **(CRREM)**, is a sophisticated framework for recognising these differences in addressing the carbon risk associated with real estate assets. It provides science-based carbon reduction pathways at the building, portfolio and company level. CRREM allocates the carbon budget across real estate assets based on the varying carbon intensities and energy efficiency profiles across assets recognising factors such as type, function, age, and location. CRREM framework and tools also enable banks and counterparties to assess the carbon risk tied to real estate portfolio to manage credit risk to banks alongside setting decarbonisation targets. Banks are encouraged to engage with corporate clients on whether they have a net zero plan linked to a framework like CRREM in place.

Financial assets in scope

In line with the target guidance set out by UNEP-FI,[76] the main focus for bank target setting is currently **on-balance sheet activities**. On the residential real estate side, this includes residential mortgage loans (banks should disclose whether they include/exclude unsecured financing in their real estate targets). On the commercial real estate side, this might include:

1. Property loans with mortgage security,
2. General purpose corporate loans to CRE-related companies,
3. Ground up construction/full refurbishment lending, and
4. Finance provided to Real Estate Investment Trusts (REITS) - as long as these are held on balance sheet.

It will be important that banks assess risks pre-securitisation and shifting assets off balance sheet in order to maintain industry confidence. Although the current industry standards do not include **off balance sheet** activities as a part of their scope, they can still expose the bank to potential risks or contingent liabilities. If triggered, these risks could affect the bank's financial position by becoming actual financial losses or obligations.

75 For further information, see p.1, NZBA, Climate Target Setting for Real Estate Financing, 2023.
76 UNEP FI, Climate Target Setting for Real Estate Sector Financing, 2023.

Mortgage-backed securities (MBS), a major component of banks' off-balance sheet activities, played a significant role in amplifying the 2007 financial crisis by spreading the risks associated with subprime mortgages throughout the financial system. In recent years, investments in MBS have seen a steady growth, raising concerns around mortgage defaults in future recessionary phases. US banks hold about $2.5 trillion of Agency MBS, forming a substantial part of the banks' portfolios.[77] In line with current NZBA guidelines, banks are encouraged to include off-balance sheet mortgages in their targets and decarbonisation strategy if they substantively contribute to a bank's financed emissions.[78] However securitised products are not currently covered under PCAF's facilitated emissions guidance.[79]

Emissions profile

GHG emissions reporting pertaining to loans and investments by financial institutions to real estate sector fall under their scope 3 category 15 (investments). Some of the emissions from investments like direct investments, joint ventures, or tenants under leasing agreements can also occur in banks' scope 1 and 2, and under scope 3 category 13 in specific situations. Various methodologies align on the approach to assess GHG emissions for a bank's real estate portfolio:

PCAF, GRESB, CRREM methodology for real estate operations[80]:

PCAF suggests that the real estate sector must follow a **whole building approach**. This approach focuses on all emissions of a building in operation from different counterparties, irrespective of the organisation or control of the building. Financial institutions should account for an appropriate share of the emissions from entire building using attribution factor.[81] Banks should also disclose their **operational emissions of assets** (see Context 5) and cover them in their target setting and strategy.

As set out by PCAF 'additionally and optionally', banks may choose to delineate, within their scope 3 emissions, the **scope 1, 2, and 3 emissions** of their real estate portfolio (see Context 5).

Finally, bank counterparties should also be encouraged to disclose **embodied emissions** (see Context 5). PCAF acknowledges the need for further guidance focusing on embodied emissions due to their importance over the whole life cycle of buildings.

NZBA guidance on target setting for real estate sector financing[82]:

NZBA also states that banks' emission accounting for real estate can follow a whole-building approach. The guidance 'purposefully omits the designation of emissions to scope 1, 2, or 3, because counterparties may be users or owners of buildings. As a result, NZBA 'delineates building operations versus embodied emissions instead. However, [it states that] if banks prefer to report their real estate portfolio emissions by scope, they can use PCAF, SBTi or other frameworks that delineate emissions by scope.'

77 Ginnie Mae, Global Market Analysis, 2024.

78 NZBA, Climate Target Setting for Real Estate Sector Financing, 2023, p.7.

79 PCAF, in 2024, has released new guidance and methods for public consultation which includes securitisations and structured products.

80 For more details on the methodology, refer to GRESB, PCAF, CRREM, Accounting and Reporting of GHG Emissions from Real Estate Operations, 2023.

81 PCAF defines attribution factor as "the share of total annual GHG emissions of the borrower or investee that is allocated to the loan(s) or investment(s)". See PCAF Part A financed emissions p. 40 for more details.

82 For more details, see NZBA, Climate Target Setting for Real Estate Financing, 2023.

CRREM Risk Assessment Tool[83]:

The tool focuses on operational energy consumption and takes a whole building approach including energy use from common space and tenant areas and carbon from retrofits. It does not consider the embodied carbon of the existing structure since it falls outside the scope of the building operation.

Context 5: Different approaches of emissions accounting for banks' real estate portfolio

Operational emissions of assets

- Direct: (Fossil fuels burnt on-site & fugitive emissions)
- Indirect energy (Electricity & heat used on-site)
- Tenant energy use

Embodied emissions of assets

- Product
- Construction
- In use (Maintenance, Repair, Fit-Outs)
- End of life

Scope 1,2,3 emissions

- Landlord-procured energy for operational use (scope 1 and 2)
- Tenant-procured energy for operational use (scope 3)
- Embodied carbon from development and refurbishment of assets (scope 3)

Whole building emissions

- Operational emissions (scope 1 and scope 2)
- Tenant and occupant emissions
- Upstream and downstream embodied emissions (scope 3)
- Shared Spaces and Services
- Building Use Intensity

II. A high-level overview of bank targets and strategies for the real estate sector

Banks' exposure to real estate

Globally, banks hold substantial commercial and residential real estate exposure. For example, in HSBC's portfolio, real estate accounts for over 80% of their lending to personal customers and 20% of lending to their wholesale customers.[84] Deutsche Bank's sizeable residential real estate portfolio accounts for about 40% of its total loan book in 2022.[85] However, consistent and clear reporting by banks on real estate exposure remains limited, posing challenges for stakeholders in fully assessing risk levels in this sector.

83 For more details, refer to CRREM's FAQ.
84 HSBC, 2024 Net Zero Transition Plan, 2024, p.46.
85 Deutsche Bank, Residential Real Estate- leading to Net Zero, 2022, p.4.

Target setting by banks

The 21st of April 2024 marked the deadline by which the founding members of NZBA were expected to set their full suite of targets for nine priority sectors including real estate.[86]

The NZBA 2024 Progress Report shows that real estate had a high target-to-bank ratio, with 76 banks (over half of NZBA members) setting 122 targets, mostly for 2030. There is variability in the pathways used, with banks using both CRREM 1.5°C and IEA NZE by 2050. Many banks (46) have set targets covering both residential and commercial real estate, while 15 set targets only for commercial and 15 set targets for residential. Most targets are based on emission intensity per unit floor area and focus on client's scope 1 and 2 emissions (given challenges around scope 3).[87]

Some banks have set broad sustainable finance targets for real estate but have not yet established specific decarbonisation targets for this sector which indicates a gap in translating capital commitments to concrete climate actions.[88] Banks, particularly those with large real estate exposures, have not set these targets citing data quality and feasibility concerns in the current policy landscape.[89]

Implementation roadmap

Banks are at different stages of developing decarbonisation strategies for real estate, covering both residential and commercial real estate. For residential portfolio, strategies include offering financing options, preferential interest rates, and mortgage incentives to promote energy-efficient upgrades and new builds, as well as guidance on climate-related risks.[90] In commercial real estate, banks are assessing clients' transition plans, providing development loans, and offering advisory services for sustainable renovations.[91]

Banks have often highlighted data quality, reliance on government and regulatory action and policy shifts, and overall grid energy decarbonisation as limitations on the role banks can play in decarbonising the sector. Nevertheless, given regulatory signals, a strategy to avoid the stranding of inefficient assets that can no longer be rented or sold is critical.[92]

III. Challenges and considerations for decarbonising real estate

- **Consistency around certification and standards and what constitutes net zero real estate and net zero embodied carbon is needed:** One of the identified priority action areas is for standardisation of frameworks, including developing definitions and assessments for zero or near-zero emissions and resilient buildings.[93] The EU's Energy Performance of Buildings Directive, the United States' Blueprint for Decarbonising US Buildings, and UK's net zero buildings standard are the initial steps in this direction.[94] Additionally, the Buildings Breakthrough, launched at COP28 and supported by 28 countries, set the target of 'near-zero emission and resilient buildings are the new normal by 2030'.[95] This is expected to be developed by COP30. Investor signatories to the Global Real Estate Engagement Network (GREEN)have called for the standardisation of certification and for real estate companies and funds to obtain green building certifications.[96]

86 UNEP FI, NZBA Progress update, 2023.
87 For further details, refer to NZBA's 2024 Progress Report, p. 26.
88 For more details, see ShareAction's Mind the strategy gap: How disjointed climate targets are setting banks up to miss net-zero, 2024.
89 NZBA, 2024 Progress Report, 2024.
90 For some bank-specific examples, see here: Deutsche Bank; Mizuho; ABN AMRO; Lloyds
91 For some bank-specific examples, see here: ING; ABN AMRO.
92 See this Bloomberg article for more info on how 'Global Banks Start Targeting a New Breed of Real Estate Risk', 2024.
93 See challenges highlighted by M&G, Our real estate journey to net zero, 2021.
94 More details on EU, US, and UK definitions.
95 See Global Alliance for Buildings and Construction.
96 See the GREEN Investor Statement, Action 4 for real estate companies and funds.

- **Low demand for renovations:** It is important to renovate existing buildings since most buildings that will exist in 2050 have already been built. However, high upfront costs of installation, underdeveloped supply chains, lack of information, and rising interest rates among other social and economic considerations, hinder the uptake of these technologies by homeowners.[97] Due to the impact of inflation on purchasing power of consumers, there is a strong case for government interventions to incentivise renovation and reduce the transition risks for banks. Banks have been advocating for financial policies to incentivise investment in retrofits to increase uptake of decarbonisation technologies[98] and decrease the risk of stranded assets.

Context 6: Cost competitiveness of heat pumps: relative energy prices and energy taxes

Heat pumps are a key technology for decarbonising heating in buildings according to the IEA. Jefferies (2024) concludes that a key determinant of heat pump competitiveness over fossil fuel boilers is that the price of electricity must not exceed 3x the price of gas or oil. In countries where electricity is not at a significant premium to gas, such as Sweden, more than 40% of households have heat pumps installed. On the other hand, in the United Kingdom where electricity can be more than 3x the price of gas, less than 1% of households have heat pumps installed.

There has also been some misinformation and myths in the media about heat pumps that should be corrected. Financial institutions can help provide input to policymakers on how to improve the financial attractiveness of key technologies such as heat pumps and to address myths about them.

- **Evolution of country regulations:** Disparities in policy evolution within regions have resulted in an overall difference in energy mix and energy management. This is reflected in lower EPC regulations, or less ambitious national real estate decarbonisation strategies in some countries impacting overall energy management through poor energy use, undermining retrofit actions.[99] There is a need to amplify policy action on a country level to standardise energy efficiency/EPC ratings and incentivise consumers to use energy efficiently. These policies can create a supportive environment for banks to finance new or ongoing efforts to improve energy efficiency. The German government's policy to improve energy performance standards for residential and commercial real estate to promote transparency is an example of policy action to promote efficient energy use.[100]
- **Addressing physical risk:** Assessing banks' current and planned resilience measures is challenging. One reason is uncertainty. It is very difficult to quantify the impact of climate change, for instance, predicting the extent of ice sheet melt under any assumed temperature rise and the extent of coastal flooding from sea level rise.[101] Physical risks also vary widely across and within regions, posing a major challenge for effective risk management.[102] This process is further limited by data gaps, insufficient expertise on climate-related issues, and the lack of standardised methodologies.[103] A further challenge is integrating non-linearities and tipping points.[104] The Global Real Estate Sustainability Benchmark (GRESB) has started to assess the approach taken by real estate entities in identifying material physical risks.[105]

97 ACEEE, Ready to Upgrade: Barriers and Strategies for Residential Electrification, 2022.
98 Lloyds, Five actions we need to help make UK homes more energy efficient, 2023.
99 RICS, Decarbonising UK real estate, 2022.
100 Federal Ministry for Economic Affairs and Climate Action, Enhancing Energy Efficiency in Buildings, 2024.
101 BIS, The effects of climate change-related risks on banks: a literature review, 2023.
102 Refer to IPCC Sixth Assessment Report for more detail.
103 TCFD, Status Report, 2023 p. 56.
104 Institute and Faculty of Actuaries & University of Exeter, The Emperor's New Climate Scenarios, 2023.
105 GRESB, Real Estate Standard and Reference Guide, 2024.

- **Embodied carbon:** As new buildings become more energy efficient with increased supply of low carbon energy, embodied emissions will represent a larger portion of banks' real estate emissions portfolio.[106] Due to limited data availability, embodied emissions is not generally included in bank decarbonisation targets and plans. However, there is growing awareness of the need to address this to achieve real world impact.[107] With the development of tools for the calculation of embodied emissions, it is likely that reporting will become more important in the future.[108] In this regard, countries like Demark, Sweden, and France have started putting in place regulations to assess and reduce embodied emissions for planned or existing buildings,[109, 110] with limit values to be introduced for new buildings in all EU member states by 2030.[111]
- **Lender data access:** Accessing data is particularly challenging for real estate debt lenders, as they must request information from the borrower, who in turn needs to obtain it from the occupier. While new loan documentation is beginning to request this data from borrowers, changing reporting requirements after funding has been issued remains challenging. Initiatives like PCAF European Building Emission Factor Database are helping to standardise data and provide a dataset of embodied carbon emission factors. Green leases may be helpful as a tool, as they require data sharing and co-operation on sustainable initiatives.[112]
- **Data availability:** The availability and quality of data, like EPC ratings, vary widely across countries due to dependence of country-level data regulations and infrastructure. Even though there are legal obligations to collect real estate data, GDPR and other privacy laws limit the scope of data that can be collected. UNEP-FI and CRREM's survey of financial institutions revealed that 29% of institutions did not have enough data to carry out transition risk analysis for the sector.[113] This impacts the risk assessments of banks and the overall roll-out of credible real-estate policies due to data estimation. The introduction of building level logbooks, or building passports, in the EPBD will support the availability of building level data in Europe.
- **Supply chain dependencies:** the real estate sector is dependent on upstream sectors like steel, construction, and electric utilities to decarbonise to stay on track to achieve its net zero targets. Green steel production, low carbon intensive construction materials, and renewable energy capacity are all important levers for real estate decarbonisation. Government efforts for low carbon energy procurements like by the Treasury Board in Canada and the General Services Administration in the US can help stakeholders, like banks, to reach their real estate decarbonisation targets.[114]
- **Just Transition:** Homeowners may face difficulty in accessing capital to finance retrofit efforts. Specifically, vulnerable households with limited access to financing, in some cases, can result in depleting household savings due to mandatory regulations. Policies around subsidies, benefits and state guaranteed loans like the UK and US government's policies on social housing decarbonisation fund and home upgrade grant are necessary to ensure the transition to a net zero economy is fair and just.[115] As discussed above, in addition to supporting clients get access to finance, banks can also act as facilitators or distributors of funds guaranteed by the state to ensure a wider reach and ease of access for homeowners.

106 UNEP FI, Climate Target Setting for Real Estate Financing, 2023.

107 RICS, Decarbonising the built environment in the EU, 2023.

108 PCAF in Accounting and Reporting of GHG Emissions from Real Estate Operations, 2023 (p. 19) states "embodied carbon…[is] extremely important, and data and reporting on whole lifecycle emissions of buildings will very likely be required in the near future".

109 Introba, Lessons from Denmark on Sustainable Design and Whole Life Carbon Emissions, 2023.

110 See also HSBC, Why embodied carbon is rising up the real estate agenda, 2023.

111 World Green Building Council, Life cycle Global Warming Potential in the Energy Performance of Buildings Directive, 2024.

112 For further info see e.g. ESG in Perspective: Green Leases – The Tool you Didn't Know You Needed, BNP, 2024; and Data Collection for ESG Reporting and its role in creating Smarter and more Sustainable Cities, GRESB, 2021.

113 CRREM Survey on transition risk in real estate, 2022.

114 RICS, Decarbonising the built environment: policy reform reports for key market governments, North America, 2023.

115 For further details on government policies see here: RICS.

IV. Policy dependencies for banks in real estate decarbonisation

Banks and real estate owners need a supportive policy environment for emissions reduction from the real estate sector. Here we have summarised some (non-exhaustive) dependencies on policies, regulations and incentivisation schemes that have been identified by certain banks:[116]

- **Mandated and consistent Energy Performance Certificates** (EPCs) across jurisdictions to reliably capture data on retrofit activities of homeowners.
- **Standardised policies and regulations** on data measurement and disclosure of GHG emissions of buildings.
- **Increase data availability on embodied carbon** to develop guidance on target-setting and improving energy efficiency to reduce embodied emissions.
- **Aligning green/transition definitions and methodologies across borders**.
- Long-term package of i**ncentives and regulations around retrofitting** for homeowners and builders to improve energy efficiency of their homes.
- **Increased transparency, support and incentivisation to promote a positive change in consumer behaviour**.
- Accelerate the **'greening' of power grids** for increased and reliable supply of renewable energy.
- Maximising solar and wind energy via permissions and funding incentives.
- Support **new green jobs** to address the retrofit skills gap to make energy efficiency improvements.
- **Dynamic pricing** to better match corporate/consumer supply and demand.

V. Summary of key global policies

Regional differences in policy contexts require banks to adapt their real estate sector policies and solutions to reduce emissions in different geographies, particularly in the markets with largest exposure. A key challenge will be supporting the financing of net zero-aligned renovations. Emerging economies in Asia will also see net zero-aligned new constructions playing a particularly significant role, given the substantial growth in real estate expected in many of these markets.

116 For examples of bank specific asks see e.g.: ING and Lloyds.

European Union:

Current EU Policies[117]	Area	
Renovation Wave (launched 2020)	Renovation, Operational emission reduction and Green jobs	Action plan that targets to at least double the annual energy renovation rate of residential and non-residential buildings and enhance energy efficiency, also creating new green jobs. This aims to reduce GHG emissions from buildings by 60% by reducing energy consumption by 14%, in particular, energy consumption of heating and cooling by 18% by 2030.
Fit for 55 and Repower EU	Emissions reduction	A suite of legislative proposals to align EU policies with the goal of reducing greenhouse gas emissions by at least 55% by 2030 and end Europe's dependence on Russian fossil fuels. It includes various policies directed towards reducing emissions from the real estate sector, which are covered in greater detail below.
Renewable Energy Directive	Renewable energy for buildings	Legislative framework to increase the share of energy from renewable sources in the EU's gross final energy consumption to at least 42.5% by 2030 and aim for 45%. There is an emphasis on sector-specific sub-targets and measures for buildings, which have an indicative 2030 target of 49% share of energy from renewable sources by 2050.
Energy Efficiency Directive	Energy efficiency	Legislative framework to achieve an 11.7% reduction in final energy consumption at the EU level by 2030, compared to the 2020 projections of the EU reference scenario, by increasing annual energy savings obligations and decreasing energy consumption in public buildings.
Energy Performance of Buildings Directive (EPBD)	Energy efficiency of new and existing buildings	Legislative framework that mandates all new buildings to be zero-emissions as of 2030; it envisages that each Member State renovates the 16% worst-performing building stock by 2030 for residential and non-residential buildings, and 20-22% by 2035 and 26% by 2033 for residential and non-residential buildings respectively. It also aims to completely discontinue the use of fossil fuel boilers by 2040.[118]
Construction Product Regulation	Construction materials	Provides a common technical language to assess the performance of construction products.
EU Emissions Trading System (ETS)	Fuel utilisation	Plans to establish ETS II to regulate buildings emissions from fuel utilisation by 2027.
Level(s) Framework	Whole life cycle emissions	Voluntary framework designed to assess the sustainability performance of buildings from design to the end of a building's life cycle.

117 For more detail on European policies see RICS, Decarbonising the built environment in the EU, 2023.

118 EUR-Lex, Directive (EU) 2024/1275 of The European Parliament and of The Council on the Energy Performance of Buildings, 2024.

North America:

Organisation/ Policy	Area	
US Inflation Reduction Act	Retrofits, energy efficiency, supply chain	The 2022 act sets out economic policies for: ▪ Tax incentives for on-site renewables, energy storage, and microgrids ▪ Incentives and rebates for efficiency upgrades to new and existing commercial buildings, residential and public buildings ▪ Technical upgrades to federal buildings ▪ Grants for affordable housing upgrades and developing or improving building energy codes
US General Services Administration (GSA)	Construction materials	In 2023, GSA announced new requirements for the procurement of 'substantially lower embodied carbon construction materials for agency construction projects'.
US Securities and Exchange Commission (SEC)	Data availability	Issues proposed rules that will require real estate companies and funds to track and report on emissions and climate risk data.
Blueprint for Decarbonising US Buildings	Emissions reduction	Strategies aimed at reducing emissions from U.S. buildings 65% by 2035 and 90% by 2050 compared from 2005 level.
US ASHRAE Standard Method of Evaluating Zero Net Energy and Zero Net Carbon Building Performance	Energy efficiency	Standardised method for evaluating and verifying whether buildings achieve zero net energy or zero net carbon performance.
Pan-Canadian Framework on Clean Growth and Climate Change	Retrofits, energy efficiency	Actions include: ▪ making new buildings more energy-efficient ▪ retrofitting existing buildings ▪ improving energy efficiency for appliances and equipment ▪ supporting building codes and energy-efficient housing in Indigenous communities

Asia:

Japan:

- For Japan to reach its 2030 target of 46% reduction in emissions, it would need to abate 55% of buildings emissions from 2017 levels.[119] Japan's Green Transformation (GX) Basic Policy has set the objective to invest at least JPY 14 trillion (~ €85bn) in the building sector over the next ten years.[120]

119 McKinsey, How Japan Could Reach Carbon Neutrality by 2050, 2021.
120 Climate Action Tracker, Japan: Policies and Actions, Buildings, 2024.

- Japan revised its building regulations in 2022 to require Zero Energy House/Building levels of energy efficiency for all new buildings by 2030, and for all existing buildings by 2050.[121]
- From 2025 onwards, all new residential and non-residential buildings will have to adhere to the energy conservation standards in Japan under the Building Energy Efficiency Act which is currently limited to some non-residential buildings. Additionally, renewable energy use, including solar panel installations for new houses will also become mandatory in Tokyo.[122]

China:

- The Green Building and Implementation Plan for Carbon Peaking in Urban and Rural Construction released by China's Ministry of Housing and Urban-Rural Development outlines the government's actions to decarbonise the sector including retrofitting and low carbon construction, increasing energy efficiency of new public and residential buildings by 20% and 30% by 2030, respectively. It also sets out the country's 2025 goals for energy efficiency improvements.[123]
- China, in 2019, launched a Near Zero-emission Buildings Standard (NZEB) for development of green buildings, defined as 'buildings that save energy, land, water, materials and are ecologically unharmful'.[124]
- In 2022, the government introduced the General Code for Building Energy Efficiency, mandating energy-efficient design for all new, expanded, and renovated buildings.[125]

VI. Capital Weight Regulations and Real Estate: A Regional Overview

European Union: The EBA's Pillar 3 ESG disclosure standards were developed as part of the Capital Requirements Regulation (CRR) framework, with a phased implementation timeline. These standards were finalised in 2022, and banks are expected to begin disclosing these ESG-related risks from March 2025.[126] Under the CRR III framework, real estate assets deemed environmentally vulnerable, such as properties at risk of flooding or with poor energy performance, are subject to higher capital weights. With the new standards, banks must report Energy Performance Certificate (EPC ratings) (A to G) for both residential and commercial properties, providing transparency on energy efficiency. Disclosures also cover physical climate risk exposure, such as properties located in flood-prone areas, and transition risk exposure under NACE Code L, which highlights regulatory risks from shifts such as tightening energy efficiency standards.[127]

Banks must also disclose exposure to real estate linked to top carbon-intensive companies, results from climate stress testing to assess portfolio resilience, and the extent of their green finance portfolios, such as green mortgages for energy-efficient properties, Loan-to-Value (LTV) ratios to evaluate the credit risk associated with properties that require significant energy efficiency upgrades or are exposed to climate risks.[128]

121 ECCJ, The government enacted the revised Building Energy Conservation Act, 2022.
122 DWS, APAC Decarbonization in Real Estate, 2023.
123 RICS, Decarbonising the built environment in China, 2023.
124 Climate Action Tracker, China: Policies and Actions, Buildings, 2024.
125 China Briefing, China's Green Building Materials Sector, 2022.
126 European Banking Authority (EBA), The EBA updates the Pillar 3 disclosure framework finalising the implementation of the Basel III Pillar 3 framework, 2024.
127 EBA, EBA publishes binding standards on Pillar 3 disclosures on ESG risks, Annex I Templates for ESG prudential disclosures (xlsx), 2022.
128 European Banking Authority (EBA), Annex II - Instructions for ESG Prudential Disclosures Templates, 2022.

North America: Climate risks are not yet fully integrated into capital requirements. However, there is growing recognition of the need to account for these risks in the region. Canada is in the initial stages of integrating climate risks into capital requirements, with the Office of the Superintendent of Financial Institutions (OSFI)[129] making progress through new guidelines, however, compared to its peers, it is still in the initial phases, as other jurisdictions have implemented more comprehensive measures.[130] The Basel III Endgame in the United States[131] may require banks to increase capital reserves, particularly for high-risk real estate sectors. New capital rules could increase requirements for mortgage-backed securities (MBS) and real estate loans tied to regions with significant climate vulnerabilities, such as areas prone to wildfires, hurricanes, and flooding.[132]

Asia: While some countries have begun exploring the integration of climate risks into capital requirements, progress is uneven. Japan133 and Singapore[134] are leading efforts to integrate climate risks into their financial systems with green financing initiatives, though direct capital weight adjustments for real estate are part of evolving broader ESG risk frameworks. Other countries are moving more slowly but are expected to align with global standards over time.[135]

129 Government of Canada OSFI, Climate Risk Management, 2023.

130 Office of the Auditor General of Canada (OAG), Just Transition to a Low-Carbon Economy: Report 4, para 4.45, 2023.

131 Board of Governors of the Federal Reserve System, Agencies request comment on proposed rules to strengthen capital requirements for large banks, 2023.

132 Developments by early 2025, including leadership changes at the Federal Reserve, have introduced some uncertainty about the timeline and final scope of these reforms, though discussions on their implementation continue.

133 IMF, Japan: Financial Sector Assessment Program-Technical Note on Financial Supervision and Regulation of Climate Related Issues, 2024.

134 Monetary and Regulatory Authority of Singapore, Regulatory and Supervisory Approach, 2023.

135 CRISIL, Climate Risk Regulation in Asia-Pacific, 2023.

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